

~~3.1.1 Applying Inclusion Rules to Develop Base Cases~~

3. RNA Base Case and Scenarios Development

3.1 RNA Base Case Development

~~For the transmission security evaluations, the~~ NYISO will use the ~~base case from~~ the most recent FERC Form 715 filing ~~to create and the information from the most recent Gold Book as a~~ “baseline” starting point ~~for the relevant system models. The NYISO will review the plans and developing the base case system models with the application of the inclusion rules. For the resource adequacy evaluation, the models are developed starting with prior resource adequacy models are updated with information from the most recent Gold Book, historical data, and with the application of the inclusion rules. Information on modeling of neighboring systems is based on the input received from the NPCC CP-8 working group.~~

~~The NYISO will review proposed plans and projects, and~~ other information collected as part of the input phase of the RPP (described in ~~section 2~~**Section 2** of this Manual) and ~~subject them to apply to~~ the RNA inclusion rules described ~~above. The projects and associated details below in~~ **Section 3.2.1**. In applying the inclusion rules, the NYISO will exercise its judgment, using Good Utility Practice, to determine whether to include or exclude a resource from the RNA Base Case. ~~The proposed plans and projects that pass meet the inclusion screening process criteria will be included with their associated details in the system models for the RNA, as applicable.~~

Generators entering into service ~~or for the first time, entering into an outage states state, or returning to service after an outage~~ will be modeled in accordance with the rules set forth ~~above, in~~ **Section 3.2.2**.

~~The NYISO will review the RNA Base Case assumptions with ESPWG and TPAS and consider stakeholder input prior to finalizing the RNA Base Case.~~

Depending upon the extent of changes included in the ~~RNA Base Case~~, there may be violations of criteria (including local TO criteria) on both the non-bulk and bulk power systems, even under normal base case conditions prior to contingency assessments. If these violations are clearly on the non-bulk power system (a local problem or “load pocket”), certain generic facilities (representative and practical size and type of generators, lines, transformers, voltage control devices, demand response, and energy efficiency, etc.) are added to the system model in consultation with the local TO to complete the base case. These additions are for study and analytical purposes only, and they are of a minimal nature. However, generation dispatch may be adjusted, to the extent possible, to resolve the criteria violations and base case convergence requirements. These generic additions may be removed, modified, or separately identified at the conclusion of the RNA, as possible

requirement(s). It is important to note that some of these additions may be essential to obtaining a minimum solvable power flow base case. Further additions of facilities may be required after the initial transmission security assessment performed per Section [Error! Reference source not found.4.6.](#)

3.1 Develop Base Cases for Ten Years

3.2 RNA Base Cases Inclusion Rules

~~The base cases should be the best possible representation of the network and resources for the period under study.~~

The NYISO will utilize RNA Base Case inclusion rules to ~~screen the review~~ projects and plans for inclusion or exclusion from the RNA ~~Study Period base cases.~~ ~~The base case inclusion rules are~~Base Cases, as follows:

- ~~1. TO LTPs for non-BPTF facilities and NYPA transmission plans for non-BPTF, which are reported to the NYISO as firm transmission plans, will be included.~~
- ~~1. Regulated BPTF projects not in service or not under construction, including TO LTPs, will be included if:~~
 - ~~a. the project is: (i) triggered in the RPP; (ii) has been selected in PPTPP; (iii) approved by beneficiaries under CARIS; or (iv) part of a TO LTP or the NYPA transmission plans, and~~
 - ~~b. the project is expected to be in service within 3 years or other reasonable time frame based on the nature of the project, and~~
 - ~~c. the project has an application that has been deemed complete for a certificate under Article VII of the New York Public Service Law or other major regulatory approval, if required, and~~
 - ~~d. the project has an approved System Reliability Impact Study (“SRIS”), or an approved System Impact Study (“SIS”) (as applicable), if required, and~~
 - ~~e. the project is making reasonable progress under the applicable planning process of Attachment Y of the OATT.~~
- ~~2. Market based BPTF projects not in service or not under construction will be included if:~~
 - ~~a. the project is expected to be in service within 3 years or other reasonable time frame based on the nature of the project, and~~
 - ~~b. the project has an approved SRIS, or an approved SIS (as applicable), if required, and~~

- ~~e. the project has an application that has been deemed complete for a certificate under Article VII of the New York Public Service Law or other major regulatory approval, if required, and~~
- ~~d. the project has an executed contract with a credit worthy entity for at least half of the project capacity.~~
- ~~3. BPTF projects that are in service will be included.~~
- ~~4. BPTF projects under construction will be included if:~~
 - ~~a. the project is expected to be in service within 3 years or other reasonable time frame based on the nature of the project, and~~
 - ~~b. the project is making reasonable progress toward entering service by its project in-service date.~~

3.2.1 Proposed Projects

	Project Types	Inclusion Category A Project shall be included if:	Inclusion Category B Considerations for inclusion of project:
Generation	Large Generating Facility (as defined in OATT Attachment X)	<ul style="list-style-type: none"> a) All major project components (plant, fuel supply and delivery, system upgrades) under construction, and b) Class Year Interconnection Facilities Study complete, and c) Interconnection Agreement executed, and d) Making reasonable progress against the milestones in the Interconnection Agreement 	Any Large Generating Facility that is either a member in the currently active Class Year, or has an executed Class Year Interconnection Facilities Study Agreement for the next Class Year, or has completed a Class Year Interconnection Facilities Study, or has an executed Interconnection Agreement may be included if significant progress has been made in regard to one or more of the following factors: <ul style="list-style-type: none"> a) Construction status of major project components (plant, fuel supply and delivery, system upgrades) b) Project financing (e.g., executed contract with a credit-worthy entity or equivalent financial security / closing) c) Federal, state, and local permits and regulatory approvals for major project components
	Small Generating Facility (as defined in OATT Attachment Z)	<ul style="list-style-type: none"> a) Commercial Operation Date before the summer capability period of year 2 of the Study Period, and b) Facilities Study complete (if applicable), and c) Interconnection Agreement 	N/A

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	Project Types	Inclusion Category A Project shall be included if:	Inclusion Category B Considerations for inclusion of project:
		executed (if applicable), and d) Making reasonable progress against the milestones in the Interconnection Agreement	
Transmission	Merchant Transmission Facilities (as defined in OATT Attachment X)	a) Class Year Interconnection Facilities Study complete, and b) Interconnection Agreement executed, and c) Under construction, and d) Making reasonable progress against the milestones in the Interconnection Agreement	Any Merchant Transmission Facility that has an Article VII application that has been deemed complete (if applicable) and is either a member in a currently active Class Year Interconnection Facilities Study, or has an executed Class Year Interconnection Facilities Study Agreement for the next Class Year, or has completed a Class Year Interconnection Facilities Study, or has an executed Interconnection Agreement may be included if significant progress has been made in regard to one or more of the following factors: a) Construction status of major project components (e.g., terminal equipment, conduit, cables, towers, transmission lines) b) Project financing (e.g., executed contract with a credit-worthy entity or equivalent financial security / closing) c) Federal, state, and local permits and regulatory approvals for major project components
	Regulated Transmission Solutions (as defined in OATT Attachment Y)	a) Triggered in the RPP, approved in the CARIS, or selected in the PPTPP, and b) No indication that the regulated transmission solution is not progressing under the applicable post-selection process of Attachment Y to the OATT	N/A

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Project Types	Inclusion Category A Project shall be included if:	Inclusion Category B Considerations for inclusion of project:
Transmission Projects (as defined in OATT Attachment P)	a) Transmission Project (other than a transmission upgrade or expansion listed in an LTP or NYPA transmission plan, or a Merchant Transmission Facility, or a Regulated Transmission Solution), as defined in Section 22.3.1.3. of Attachment P of the OATT, that is not eligible for regional cost allocation, and b) Interconnection Agreement executed, and c) Under construction, and d) Making reasonable progress toward entering service by the projected In-Service Date	Any Transmission Project (other than a transmission upgrade or expansion identified in an LTP or NYPA transmission plan, a Merchant Transmission Facility, or a Regulated Transmission Solution), as defined in Section 22.3.1.3. of Attachment P of the OATT, that has an Article VII application deemed complete (if applicable), and either has an executed Facilities Study Agreement or has an executed Interconnection Agreement may be included if significant progress has been made in regard to one or more of the following factors: a) Construction status of major project components (e.g., terminal equipment, conduit, cables, towers, transmission lines) b) Project financing (e.g., executed contract with a credit-worthy entity or equivalent financial security, closing, or rate recovery) c) Federal, state, and local permits and regulatory approvals for major project components d) Projected In-Service Date prior to the summer capability period of year 4 of the Study Period or other reasonable time period based on the nature of the project
Local Transmission Owner Plans (LTP) for BPTF (as defined in OATT Attachment Y)	a) Transmission upgrade or expansion of the BPTF identified in the latest TO LTP or NYPA transmission plan that is not eligible for regional cost allocation, and b) Under construction, and c) Making reasonable progress toward entering service by the projected In-Service Date	Any BPTF transmission upgrade or expansion that is identified as a firm plan in the latest TO LTP or NYPA transmission plan, has a completed SIS (if applicable), and has an Article VII application deemed complete (if applicable) may be included if it is expected to be in-service prior to the summer capability period of year 4 of the Study Period or other reasonable time period based on the nature of the project, and is making reasonable progress toward entering service by the projected In-Service Date.

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	Project Types	Inclusion Category A Project shall be included if:	Inclusion Category B Considerations for inclusion of project:
	Local Transmission Owner Plans for non-BPTF (as defined in OATT Attachment Y)	a) Transmission upgrade or expansion of the non-BPTF that is identified as a firm plan in the latest TO LTP or NYPA transmission plan, and b) System Impact Study complete (if applicable)	N/A
	System Deliverability Upgrades (SDUs) (as defined in OATT Attachment X)	a) Under construction, and b) Making reasonable progress toward entering service by the projected in-service date	Any SDU triggered for construction or not otherwise deferred may be included if the project(s) triggering the SDU for construction has(have) met the RNA Base Case inclusion rules, taking into consideration progress made in regard to: a) Status of engineering and procurement b) Construction status of major components (e.g., terminal equipment, conduit, cables, towers, transmission lines) c) Federal, state, and local permits and approvals for major project components

3.2.2. Generation Deactivations

Generators currently in an outage state or that intend to enter such a state, will be modeled as of the effective date of entering that outage state as indicated in [Table 0-1](#).

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Table 0-1 Modeling of Generators in Outage States

Generator Status	Modeling in RNA
Forced Out	In-service
Inactive Reserve	In-service
ICAP Ineligible Forced Outage	Out-of-service, unless the owner has provided NYISO a positive indication* that the unit will be returning to service other than pursuant to an RMR agreement or RSSA**
Generator Owner submitted a completed Generator Deactivation Notice to the NYISO	Out-of-service starting from the requested deactivation date
Generator Owner filed or submitted to a government entity or otherwise made public, including but not limited to, an executed agreement, compliance plan, operating -license, permit , or permit amendment, or other official notice evidencing their intention to deactivate upon an anticipated deactivation date target date	May be modeled out-of-service starting from the anticipated deactivation date target year depending on the nature of the notice.
Operating in accordance with an RMR agreement or RSSA	Out-of-service
In a Mothball Outage or mothballed under the pre-May 1, 2015 rules	Out-of-service, unless the owner has provided NYISO or the NYISO has other evidence providing a positive indication* that the unit will be returning to service other than pursuant to an RMR agreement or RSSA**
Retired	Out-of-service
<p>* Positive indications that a unit will be returning to service include, but not limited to, the following:</p> <ul style="list-style-type: none"> ○ Commenced Repair as defined in MST Section 2.3, or indications of repair evidenced by items such as, but not limited to: (i) a repair plan including schedule, (ii) a list of permits required with indications of active status, (iii) invoices for material, or (iv) contracts for construction. ○ Indications of restart are evidenced by items such as, but not limited to: (i) visible site activity, (ii) labor arrangements, (iii) fuel supply arrangements, or (iv) unit testing. 	

** If the NYISO has such positive indication, the unit will be modeled in the year of its return in the Study Period

~~The NYISO will evaluate the reliability of the system using the RNA Base Cases. Because the system may be reliably operated in different allowable ways, the NYISO will develop and utilize multiple base cases where appropriate. The NYISO evaluates the performance of the power system from four perspectives, namely, (i) resource adequacy, (ii) power flow, (iii) dynamics, and (iv) short circuit. Each perspective utilizes a different type of computer modeling tool for the respective analysis.~~

Generators providing a short-term solution, such as having an RMR agreement or RSSA, are eligible to offer themselves as solutions in the CRP.

3.4 Sensitivities

~~The NYISO will evaluate the reliability of the system using the RNA Base Cases. Because the system may be reliably operated in different allowable ways, the NYISO will develop and utilize multiple base cases where appropriate.~~

~~Further details are contained in Section 4.10 of this Manual.~~

3.5.3 Develop Scenarios

The preparation of long term plan(s) for the future Study Period is based on forecasts of future economic, societal, technological and power market conditions. These forecasts involve a great deal of uncertainty. Thus, developing a “plan” based on only one set of forecasted future system conditions may not meet the future reliability requirements. Such an approach would also fail to provide the flexibility necessary to adapt to the changing conditions. This type of situation is best addressed by taking a scenario approach to planning. The NYISO will use scenarios to model the bulk power system where multiple and well-reasoned future conditions are postulated. An appropriate sub-set of system conditions will be selected to define possible scenarios for determining the Reliability Needs of the system for the ten year study period

The NYISO will consider the following issues, among others, for defining scenarios for further analysis in the RNA; load forecast uncertainty, new resources, new technology, fuel supply contingencies, facility retirements and mothballs, and regulatory requirements, including limitations established by environmental programs.

Develop Study Cases for Scenarios

The NYISO will create separate study cases to properly model each of the scenarios. For the MARS model, the resources have to be grouped appropriately for each scenario, including the changes to be modeled for all zones. The NYISO will then prepare the

transmission network model, which is comprised of a converged power flow base case for each scenario covering the ten-year Study Period.

As is the case with the RNA Base Case, the NYISO will develop an RNA study case system for scenario analyses that models the existing system, including the generation and transmission system additions and upgrades and unit retirements that are projected to occur throughout the Study Period. Because emergency assistance from neighboring systems contributes to the reliability of the NYCA system, the load and generation of the neighboring systems will also be modeled. The NYISO will use data on the existing system from the MARS database maintained by NYISO staff in determining the annual installed reserve requirements. Load and generation data will be updated through the Study Period based on data from the most recent Gold Book. The NYISO will use similar reports from neighboring systems to update the data representing those regions.